

REMARKS

Applicant hereby affirms, without traverse, the election under 35 U.S.C. 121 of the invention of Group I (claims 1-12) drawn to a portable foam generator. Claims 13 to 22 have been withdrawn from consideration, 37CFR 1.142(b), as being drawn to a non-elected invention.

The portable foam generator (20) of the subject invention is carried by a person applying a fluid foam pesticide and includes an airtight reservoir (24) for containing a foamable liquid pesticide; a pressurizing means for introducing pressurized air into the reservoir; a discharge tube (26) for foaming the foamable liquid pesticide and discharging fluid foam pesticide made from the foamable liquid pesticide from the reservoir; and a hand-held foam dispensing means (22) connected to the discharge tube for controlling the discharge and dispensing of the fluid foam pesticide delivered from the discharge tube. The air pressurizing means includes an air inlet tube (28) and a source of pressured air, other than a hand-operated air pump, connected to the reservoir through the air inlet tube that, in service, maintains an air pressure within the reservoir of at least 35 psi gauge. The source of pressurized air can be an air compressor, a pressurized container of air about the size of a typical aerosol can, a pressurized air cylinder, or other pressurized air sources provided the pressurized air source is not a hand-operated air pump and consistently maintains an air pressure within the reservoir of at least 35 psi gauge when the portable foam generator is in operation. The air inlet tube (28) of the pressurizing means discharges the pressurized air into the reservoir (24) below a foamable liquid pesticide maximum fill line and includes a check valve (60) to prevent the foamable liquid pesticide from flowing back into a pressurized air outlet of the air inlet tube (28). The discharge tube (26) is flexible and weighted adjacent an inlet opening at the bottom end of the discharge tube so that, in use, the discharge tube continues to be immersed within the foamable liquid pesticide within the reservoir when the reservoir of the portable foam generator is tilted. The discharge tube (26) has venturi opening means (62) above the foamable liquid pesticide maximum fill line for introducing pressurized air within the reservoir (24) into the discharge tube to mix with the foamable liquid pesticide, as the foamable liquid pesticide passes through the discharge tube, to form the fluid foam pesticide that is discharged from the reservoir by the pressurized air through the discharge tube. The total cross sectional area of the venturi opening means (62) in the discharge tube (26) is between 0.01% and 50% of the

total transverse cross sectional area of the tubular passage in the discharge tube. The hand-held foam dispensing means (22) is mounted directly on the reservoir (24) so that in use the reservoir is carried with the hand-held foam dispensing means.

Claims 1, 3, 4, 7, 8 and 11 have been rejected under 35 U.S.C. 102(b) as being clearly anticipated by Restive (US Patent no. 5,881,493, Figs. 1 and 5; col. 6, lines 30-41, 57-67; col. 7, lines 39-49; col. 8, lines 56-67). Claim 8 has been canceled.

Restive discloses an apparatus for dispensing foam that includes two sets of diametrically opposed and aligned venturi openings (50) within the discharge tube of the apparatus that preferably have diameters of 0.020 inches. However, Restive does not disclose or suggest a portable foam generator for dispensing foam pesticides that includes the following unique combination of features: an air pressurizing means that is other than a hand operated air pump; an air pressurizing means that has an air inlet tube (28) with a source of pressured air connected to the reservoir through the air inlet tube that, in service, maintains an air pressure within the reservoir of at least 35 psi gauge; the air inlet tube (28) of the pressurizing means discharges the pressurized air into the reservoir (24) below a foamable liquid pesticide maximum fill line of the reservoir and includes a check valve (60) to prevent the foamable liquid pesticide from flowing back into a pressurized air outlet of the air inlet tube (28); and the discharge tube (26) has venturi opening means (62) above the foamable liquid pesticide maximum fill line for introducing pressurized air within the reservoir (24) into the discharge tube to mix with the foamable liquid pesticide, as the foamable liquid pesticide passes through the discharge tube, to form the fluid foam pesticide that is discharged from the reservoir by the pressurized air through the discharge tube. In the portable foam generator of the subject invention, the high volumetric expansion ratios desired for effective pesticide applications are produced by the following unique combination of features: an air inlet tube that introduces the pressurized air into the reservoir below the fill line so that the pressurized air can be introduced directly into the foamable liquid pesticide within the reservoir; a source of air pressure that consistently maintains the air pressure within the reservoir at 35 psi gauge or above while the foam generator is in use; and venturi opening(s) above the maximum fill line for introducing pressurized air into the discharge tube through the venturi opening(s) of the generator. Restive fails to disclose or suggest a foam generator with the unique and effective combination of features set forth in claims 1, 3, 4, 7, and 11 and the allowance of claims 1, 3, 4, 7, and 11 over Restive is solicited.

Claims 2 and 6 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Restive (US Patent No. 5,881,493) taken together with Spengler et al (US Patent No. 4,606,477). Claim 6 has been canceled.

Restive discloses an apparatus for dispensing foam that is pressurized with a hand pump and includes two sets of diametrically opposed and aligned venturi openings (50) within the discharge tube of the apparatus that preferably have diameters of 0.020 inches. Spengler et al (Fig. 1; col. 4, lines 5-29, 67-68; col. 5 lines 1-6; col. 6, lines 38-45) discloses a foam generator that is pressurized with a hand pump wherein the venturi opening is in the form of a single aperture (64) in the discharge tube (61) and the pressurized air inlet is below the normal liquid level within the reservoir. However, neither Restive nor Spengler et al disclose or suggest a portable foam generator for dispensing foam pesticides that includes the following unique combination of features: an air pressurizing means that is other than a hand-operated air pump; an air pressurizing means that has an air inlet tube (28) with a source of pressured air connected to the reservoir through the air inlet tube that, in service, maintains an air pressure within the reservoir of at least 35 psi gauge; the air inlet tube (28) of the pressurizing means discharges the pressurized air into the reservoir (24) below a foamable liquid pesticide maximum fill line of the reservoir and includes a check valve (60) to prevent the foamable liquid pesticide from flowing back into a pressurized air outlet of the air inlet tube (28); and the discharge tube (26) has venturi opening means (62) above the foamable liquid pesticide maximum fill line for introducing pressurized air within the reservoir (24) into the discharge tube to mix with the foamable liquid pesticide, as the foamable liquid pesticide passes through the discharge tube, to form the fluid foam pesticide that is discharged from the reservoir by the pressurized air through the discharge tube. In the portable foam generator of the subject invention, the high volumetric expansion ratios desired for effective pesticide applications are produced by the following unique combination of features: an air inlet tube that introduces the pressurized air into the reservoir below the fill line so that the pressurized air can be introduced directly into the foamable liquid pesticide within the reservoir; a source of air pressure that consistently maintains the air pressure within the reservoir at 35 psi gauge or above while the foam generator is in use; and venturi opening(s) above the maximum fill line for introducing pressurized air into the discharge tube through the venturi opening(s) of the generator. Unlike the portable foam generator of the subject invention, Restive and Spengler et al both disclose portable foam generators with hand-operated

air pumps. Neither Restive nor Spengler disclose or suggest a portable foam generator wherein the foam generator is provided with a source of pressured air connected to the reservoir through an air inlet tube that, in service, maintains an air pressure within the reservoir of at least 35 psi gauge. The portable foam generator of the subject invention must operate and be maintained at a pressure of 35 psi gauge or above for the best and most effective application of liquid foam pesticides. In addition to not disclosing or suggesting a portable foam generator that includes a source of pressurized air to pressurize and maintain the reservoir at a pressure of 35 psi gauge or above during service, it has also been discovered that the use of portable foam generators with hand pumps, such as the foam generators disclosed by both Restive and Spengler, raises additional problems in the field. With the use of such hand pumps to pressurize the reservoir of a foam generator, not only does the pressure within the reservoir fluctuate but also, the worker must periodically operate the pump while trying to simultaneously apply foam with the apparatus. For the reasons discussed above and in view of the amendments to claim 1, from which claim 2 depends, Restive and Spengler et al fail to disclose or suggest a foam generator with the unique and effective combination of features set forth in claim 2 and the allowance of claim 2 over Restive and Spengler et al is solicited.

Claim 5 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Restive (US Patent No. 5,881,493) taken together with Cummins (US Patent No. 4,318,443). Claim 5 has been canceled and claim 1 has been amended to define a portable foam generator wherein the discharge tube is weighted.

Restive discloses an apparatus that is pressurized with a hand pump for dispensing foam that includes two sets of diametrically opposed and aligned venturi openings (50) within the discharge tube of the apparatus that preferably have diameters of 0.020 inches. Cummins (Figs. 1 and 2; col. 2, lines 54-59; col. 3, line 24 through col. 4, line 3) discloses a foam generator with a weight (36) on the discharge tube. However, neither Restive nor Cummins disclose or suggest a portable foam generator for dispensing foam pesticides that includes the following unique combination of features: an air pressurizing means that has an air inlet tube (28) with a source of pressured air connected to the reservoir through the air inlet tube that, in service, maintains an air pressure within the reservoir of at least 35 psi gauge; the air inlet tube (28) of the pressurizing means discharges the pressurized air into the reservoir (24) below a foamable liquid pesticide maximum fill line of the reservoir and includes a check valve

(60) to prevent the foamable liquid pesticide from flowing back into a pressurized air outlet of the air inlet tube (28); and the discharge tube (26) has venturi opening means (62) above the foamable liquid pesticide maximum fill line for introducing pressurized air within the reservoir (24) into the discharge tube to mix with the foamable liquid pesticide, as the foamable liquid pesticide passes through the discharge tube, to form the fluid foam pesticide that is discharged from the reservoir by the pressurized air through the discharge tube. In the portable foam generator of the subject invention, the high volumetric expansion ratios desired for effective pesticide applications are produced by the following unique combination of features: an air inlet tube that introduces the pressurized air into the reservoir below the fill line so that the pressurized air can be introduced directly into the foamable liquid pesticide within the reservoir; a source of air pressure that consistently maintains the air pressure within the reservoir at 35 psi gauge or above while the foam generator is in use; and venturi opening(s) above the maximum fill line for introducing pressurized air into the discharge tube through the venturi opening(s) of the generator. Unlike the portable foam generator of the subject invention, neither Restive nor Cummins disclose or suggest a portable foam generator with the unique and effective combination of features set forth in claim 1 as amended to include the limitations of claim 5, and the allowance of claim 1 over Restive and Cummins is solicited.

Claim 9 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Restive (US Patent No. 5,881,493) taken together with Urquhart (US Patent No. 2,375,833). Claim 9 has been canceled and claim 1 has been amended so that the portable foam generator defined in claim 1 includes an air inlet tube (28) with a source of pressured air connected to the reservoir through the air inlet tube that, in service, maintains an air pressure within the reservoir of at least 35 psi gauge.

Restive discloses an apparatus that is pressurized with a hand pump for dispensing foam that includes two sets of diametrically opposed and aligned venturi openings (50) within the discharge tube of the apparatus that preferably have diameters of 0.020 inches. In Figure 6, Urquhart discloses a container for producing lacteal food products wherein the container is provided with a hand air pump or may be attached to a source of compressed air. However, neither Restive nor Urquhart disclose or suggest a portable foam generator for dispensing foam pesticides that includes the following unique combination of features: an air pressurizing means that has an air inlet tube (28) with a source of pressured air connected to the reservoir through the air inlet tube that,

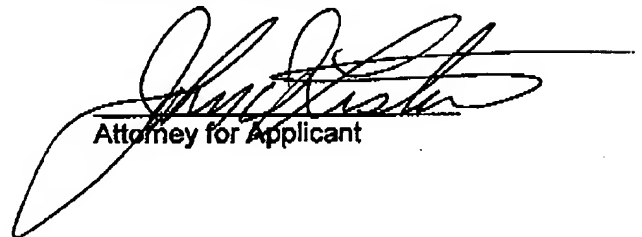
in service, maintains an air pressure within the reservoir of at least 35 psi gauge; the air inlet tube (28) of the pressurizing means discharges the pressurized air into the reservoir (24) below a foamable liquid pesticide maximum fill line of the reservoir and includes a check valve (60) to prevent the foamable liquid pesticide from flowing back into a pressurized air outlet of the air inlet tube (28); and the discharge tube (26) has venturi opening means (62) above the foamable liquid pesticide maximum fill line for introducing pressurized air within the reservoir (24) into the discharge tube to mix with the foamable liquid pesticide, as the foamable liquid pesticide passes through the discharge tube, to form the fluid foam pesticide that is discharged from the reservoir by the pressurized air through the discharge tube. In the portable foam generator of the subject invention, the high volumetric expansion ratios desired for effective pesticide applications are produced by the following unique combination of features: an air inlet tube that introduces the pressurized air into the reservoir below the fill line so that the pressurized air can be introduced directly into the foamable liquid pesticide within the reservoir; a source of air pressure that consistently maintains the air pressure within the reservoir at 35 psi gauge or above while the foam generator is in use; and venturi opening(s) above the maximum fill line for introducing pressurized air into the discharge tube through the venturi opening(s) of the generator. Unlike the portable foam generator of the subject invention, neither Restive nor Urquhart disclose or suggest a portable foam generator with the unique and effective combination of features set forth in claim 1 as amended, and the allowance of claim 1 over Restive and Urquhart is solicited.

Claim 10 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Restive (US Patent No. 5,881,493) taken together with Fauci (US Patent No. 5,775,591).

Restive discloses an apparatus that is pressurized with a hand pump for dispensing foam that includes two sets of diametrically opposed and aligned venturi openings (50) within the discharge tube of the apparatus that preferably have diameters of 0.020 inches. Fauci discloses a foaming apparatus wherein the reservoir of the apparatus is carried by a strap system. However, neither Restive nor Fauci disclose or suggest a portable foam generator for dispensing foam pesticides that includes the following unique combination of features: an air pressurizing means that is other than a hand-operated air pump; an air pressurizing means that has an air inlet tube (28) with a source of pressured air connected to the reservoir through the air inlet tube that, in service, maintains an air pressure within the reservoir of at least 35 psi gauge; the air inlet tube (28) of the pressurizing means discharges the pressurized air into the reservoir

(24) below a foamable liquid pesticide maximum fill line of the reservoir and includes a check valve (60) to prevent the foamable liquid pesticide from flowing back into a pressurized air outlet of the air inlet tube (28); and the discharge tube (26) has venturi opening means (62) above the foamable liquid pesticide maximum fill line for introducing pressurized air within the reservoir (24) into the discharge tube to mix with the foamable liquid pesticide, as the foamable liquid pesticide passes through the discharge tube, to form the fluid foam pesticide that is discharged from the reservoir by the pressurized air through the discharge tube. In the portable foam generator of the subject invention, the high volumetric expansion ratios desired for effective pesticide applications are produced by the following unique combination of features: an air inlet tube that introduces the pressurized air into the reservoir below the fill line so that the pressurized air can be introduced directly into the foamable liquid pesticide within the reservoir; a source of air pressure that consistently maintains the air pressure within the reservoir at 35 psi gauge or above while the foam generator is in use; and venturi opening(s) above the maximum fill line for introducing pressurized air into the discharge tube through the venturi opening(s) of the generator. Unlike the portable foam generator of the subject invention, neither Restive nor Fauci disclose or suggest a portable foam generator with the unique and effective combination of features set forth in claim 10 and the allowance of claim 10 over Restive and Fauci is solicited.

Respectfully submitted,



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